$^{12}C(^{24}Si,^{23}Alp\gamma)$ 2012Ba33

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	M. Shamsuzzoha Basunia, Anagha Chakraborty	NDS 186, 2 (2022)	31-Mar-2022

Adapted from XUNDL dataset compiled by E. Thiagalingam and B. Singh (McMaster); July 19, 2012.

2012Ba33: Studied $^{12}C(^{24}Si,^{23}Al)$ reaction to deduce properties of $^{23}Al(p,\gamma)$ reaction.

^{24}Si secondary beam at E=61 MeV/nucleon produced from ^{32}S primary beam at E=95 MeV/nucleon, provided by the Coupled Cyclotron Facility at GANIL, impinging on a C target. Target=175 mg/cm^2 ^{12}C. Gamma rays detected by eight EXOGAM Ge detectors and 12 NaI(Tl) detectors. Breakup fragments measured by SPEG spectrograph. Measured σ, fragment spectra, inclusive longitudinal momentum distribution, time-of-flight fragments, spectroscopic factors, asymptotic normalization coefficient (ANC). Deduced stellar reaction rates for $^{23}Al(p,\gamma)^{24}Si$.

^{24}Si Levels

E(level)	J^π	S	Comments
0	0^+	2.7 *2*	σ_{exp}=61 mb *7*.
1879	2^+		